Amendments to the Specification:

Please replace the paragraph starting with "Now referring to FIGURE 2" beginning on page 5, lines 5-16 with the following amended paragraph:

Now referring to FIGURE 2, a block diagram further illustrates some more detailed units in a preferred embodiment of the image processing apparatus according to the current invention. An image scanning unit 11 optically scans an image intensity level by reading light reflected off from an original image. The image scanning unit 11 further includes image pixel elements such as CCDs to convert the scanned light into electrical signals and converts the analog electrical signal to digital signals. After the signals are converted to electrical signals, a shade correction unit 21 performs a correction process on the digital data to correct non-uniformity in intensity due to a light source and or an optical system. Prior to scanning an image documents, a white board of a predetermined intensity standard has been scanned, and the corresponding scanned data has been stored in memory. For each scanned position in a running direction, the scanned data is corrected based upon the above standard data.

Please replace the paragraph starting with "Still referring to FIGURE 2" beginning on page 5, lines 18-32 and ending on page 6, lines 1-12 with the following amended paragraph:

Still referring to FIGURE 2, after the above shading correction, the digital signal has become linear with respect to the reflection rate. An input intensity correction unit or scanner γ correction unit 22 process the digital signal to make it also linear with respect to the original intensity level in the document. The scanner characteristic is previously measured, and an inverse conversion table is generated for compensating for the measured characteristics to correct the scanned image data. The inverse conversion table is read into RAM from a storage unit prior to use. The input intensity correction unit or scanner γ correction unit 22 makes the digital data liner with respect to the intensity level based upon the inverse conversion table. The above conversion not only increases low intensity areas, but also decreases high intensity areas in order to maximize the correction effects. A running direction electrical conversion unit 23 enlarges or reduces an image based upon

one line of data as a unit that is read by the CCD. By using a convolution method, the size change process is performed while the MTF of the optical component of the scanning unit is kept. The resolution of the image data is maintained. In a sub-running direction, the size change is performed by a mechanical control. A space filter process unit 24 extracts characteristic values and preprocesses for the subsequent gradation process. In general, the space filter process unit 24 includes the following major functions such as MTF correction, a smoothing process ~~24a~~ 24A and edge detection ~~24c~~ 24C and setting a threshold values for intensity changes ~~24b~~24B. The output from the space filter process unit 24 includes the filtered image data and the edge information for outline or contour portions of the image. As necessary, an intensity correction unit 25 corrects the intensity level of the image data based upon the above edge information. The intensity correction unit 25 generally corrects the intensity in the scanned intensity for regenerating the image based upon the standard intensity. As described above, the intensity correction unit 25 utilizes a previously stored conversion data from RAM. For an outline intensity correction unit 25a and a non-outline intensity correction unit 25b, a desired set of conversion data is separately downloaded from the RAM.

Please replace the paragraph starting with "A first function" beginning on page 7, lines 17-30 with the following amended paragraph:

A first function of a video path control unit 29 is to control the signals indicative of a scanned image. When the signal is 8-bit after the A/D conversion via the CCD, the path control is performed with the same bit width. Through the path control, an external application interface 30 controls an external application such as a scanner application program. Via a memory interface unit 31, data is stored in or read from a scanner buffer memory. A second function of the video path control unit 29 is to control a data path after the image data has been processed. During the image processing, the ~~bid~~ bit width is converted to either binary or a plurality of multi values. To accommodate the bit width of the data bus, the process controls the data. Although the video path control unit 29 controls

input and output signals from an external application via the external application interface unit 30, output signals such as a fax transmission and a print out from a personal computer are implemented with binary image data. Via the memory interface unit 31, data is stored in or read from a printer buffer memory. The data is transmitted according to a number of bits in the writing unit.

Please replace the paragraph starting with "Now referring to FIGURE 7" beginning on page 10, lines 14-30 and ending on page 11, lines 1-2 with the following amended paragraph:

Now referring to FIGURE 7, a diagram illustrates one preferred embodiment of the edge detection unit according to the current invention. In general, based upon the two dimensional position, edge portions are detected from the image data after being processed by the front filter. A different edge portion is found by a corresponding unit based upon an edge operator. An example is a Laplaceian. A vertical edge operation unit 50A detects vertical edges while a horizontal edge operation unit 50B detects horizontal edges. By the same token, a right edge operation unit 50C detects right edges while a left edge operation unit 50D detects left edges. After the above detection, the detection is verified by a use of a threshold value and a predetermined condition. Finally, the edge information is outputted. The threshold units 51A through 51D respectively determine as to whether or not a detected edge is dark enough based upon a comparison to the predetermined threshold value. If the intensity of the detected edge is below the predetermined threshold value, the detected edge is determined to be invalid. The predetermined threshold value is independently provided for each direction or orientation of the detected edges. The first threshold unit 51A compares the detected vertical edge to a predetermined threshold value TH1. Similarly, the second threshold unit 51B compares the detected horizontal edge to a predetermined threshold value TH2. The third and fourth threshold units 51C and 51D respectively compare the detected right and left edges to predetermined threshold values TH3 and Th4. Finally, the condition determination unit 52 confirms as to whether or not the detected edges meet a predetermined set of remaining conditions. For example, the

remaining conditions include connecting lines rather than discontinuing lines and the continuing line is situated in a substantially single direction.

Please replace the paragraph starting with "Now referring to FIGURES 9A and 9B" beginning on page 11, lines 27-32 and ending on page 12, lines 1-17 with the following amended paragraph:

Now referring to FIGURES 9A and 9B, a diagram illustrates a preferred embodiment of the operation unit according to the current invention. The diagram further illustrates one example of initialization. In general, the input instructions through the operation unit control corresponding functions via a control processor. Referring to FIGURE 9A, the operation control includes a display area 90, a background removal button 92, an initialize button 94, a text button 96, a photograph button 98, an intensity control slide or notch buttons 100, a clear/stop (C/S) button 102, a start button 104 and numerical key bad 106. The above described buttons are implemented on a touch-sensitive display monitor or mechanical buttons. The background removal button 92 specifies a background removal level from a predetermined set of levels which includes a complete removal of the background and some removal of the background. The background removal button 92 sets a threshold ~~vale~~ value for the corresponding level of removal. The text button 96 and photograph button 98 correspondingly set an image processing mode for image data for the above described sharpness as well as intensity adjustments. The initialize button 94 allows the customization of the sharpness and intensity adjustments to have minor adjustments. For example, the default text mode is adjusted to a little sharper or a little softer. The intensity control slide or notch buttons 100 sets an appropriate intensity process based upon the outline characteristic in the corresponding conversion table. FIGURE 9B illustrates a diagram for the control unit which has been set to an exemplary initialize selection. Based upon the sharpness-softness setting, the MTF correction efficient, the intensity threshold value, the edge detection threshold value and the intensity conversion table content are all grouped and adjusted. The above described parameters and threshold values are stored in non-volatile memory and are repeatedly used.